SANTA CRUZ BIOTECHNOLOGY, INC.

nm23-H2 siRNA (m): sc-40775

BACKGROUND

The nm23 gene, a potential suppressor of metastasis, was originally identified by differential hybridization between two murine melanoma sublines, one with a high and the second with a low metastatic capacity. Highly metastatic sub-lines exhibit much lower levels of nm23 than less metastatic cells. Based on sequence analysis, nm23 appears highly related to nucleotide diphosphate kinases (NDP). In humans, NDP kinases A and B are identical to two isotypes of human nm23 homologs, namely nm23-H1 and H2, respectively. nm23-H2 is identical in sequence to PuF, a transcription factor that binds to nuclease-hypersensitive elements at positions 142 to 115 of the human c-Myc promotor.

REFERENCES

1. Steeg, P.S., et al. 1988. Evidence for a novel gene associated with low tumor metastatic potential. J. Natl. Cancer Inst. 80: 200-209.
2. Lacombe, M., et al. 1990. Functional cloning of a nucleoside diphosphate kinase from *Dictyostelium discoideum*. J. Biol. Chem. 265: 10012-10018.
3. Kimura, N., et al. 1990. Isolation and characterization of a cDNA clone encoding rat nucleoside diphosphate kinase. J. Biol. Chem. 265: 15744-15749.
4. Stahl, J.A., et al. 1991. Identification of a second human nm23 gene, nm23-H2. Cancer Res. 51: 445-449.
5. Urano, T., et al. 1992. Molecular cloning and functional expression of the second mouse nm23/NDP kinase gene, nm23-M2. FEBS Lett. 309: 358-362.
6. Urano, T., et al. 1993. Expression of nm23/NDP kinase proteins on the cell surface. Oncogene 8: 1371-1376.
7. Postel, E.H., et al. 1993. Human c-Myc transcription factor PuF identified as nm23-H2 nucleoside diphosphate kinase, a candidate suppressor of tumor metastasis. Science 261: 478-480.

CHROMOSOMAL LOCATION

Genetic locus: Nme2 (mouse) mapping to 11 D.

PRODUCT

nm23-H2 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see nm23-H2 shRNA Plasmid (m): sc-40775-SH and nm23-H2 shRNA (m) Lentiviral Particles: sc-40775-V as alternate gene silencing products.

For independent verification of nm23-H2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-40775A, sc-40775B and sc-40775C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

nm23-H2 siRNA (m) is recommended for the inhibition of nm23-H2 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

nm23-H2 (X-42): sc-100400 is recommended as a control antibody for monitoring of nm23-H2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor nm23-H2 gene expression knockdown using RT-PCR Primer: nm23-H2 (m)-PR: sc-40775-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.